

## 4. Pedestrian Needs Analysis

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This chapter summarizes walking statistics for the City of Chula Vista, as well as the location and intensity of pedestrian generating subpopulations, pedestrian attracting land uses, and pedestrian barriers. This analysis is intended to guide the planning process toward those areas of Chula Vista where investments in pedestrian facilities would be most beneficial in terms of the current propensity for pedestrian activity. The analysis is based upon methodologies employed by the *City of San Diego's 2006 Draft Pedestrian Master Plan Citywide Implementation Framework Report*. These methodologies received broad public review by the City of San Diego and were widely supported by San Diego Association of Governments planning staff.

### Walking Statistics

According to the 2000 Census, 1,092 people in Chula Vista reported walking to work. This represents about 1.5 percent of the commuting population of the City. The 2006 American Community Survey showed an increase to 1,820, but the margin of error leaves this number in question. The proportion of Chula Vista commuters who walk is less than that for the overall San Diego region, which is approximately 3.4 percent. The pedestrian mode split for Chula Vista is most likely lower due to the relative jobs-housing imbalance in the city, as the majority of Chula Vista residents commute to locations outside of the city. In fact, over 70 percent of the working population aged 16 and over reported working outside of the city of Chula Vista.<sup>9</sup>

**Figure 4-1** displays the percent of pedestrian commuters by census block group. Population residing in the Southwest Planning Area reported the highest rates of pedestrian commuting, with several census block groups in that area showing more than 10 percent of the commuting population traveling to work by foot. Another pattern made evident by Figure 4-1 is the distinct difference between east and west Chula Vista, with noticeably higher rates of walking to work in western Chula Vista than in eastern Chula Vista.

### Pedestrian Generators

This section summarizes population and employment densities, as well as the distribution of key pedestrian-generating subpopulations.



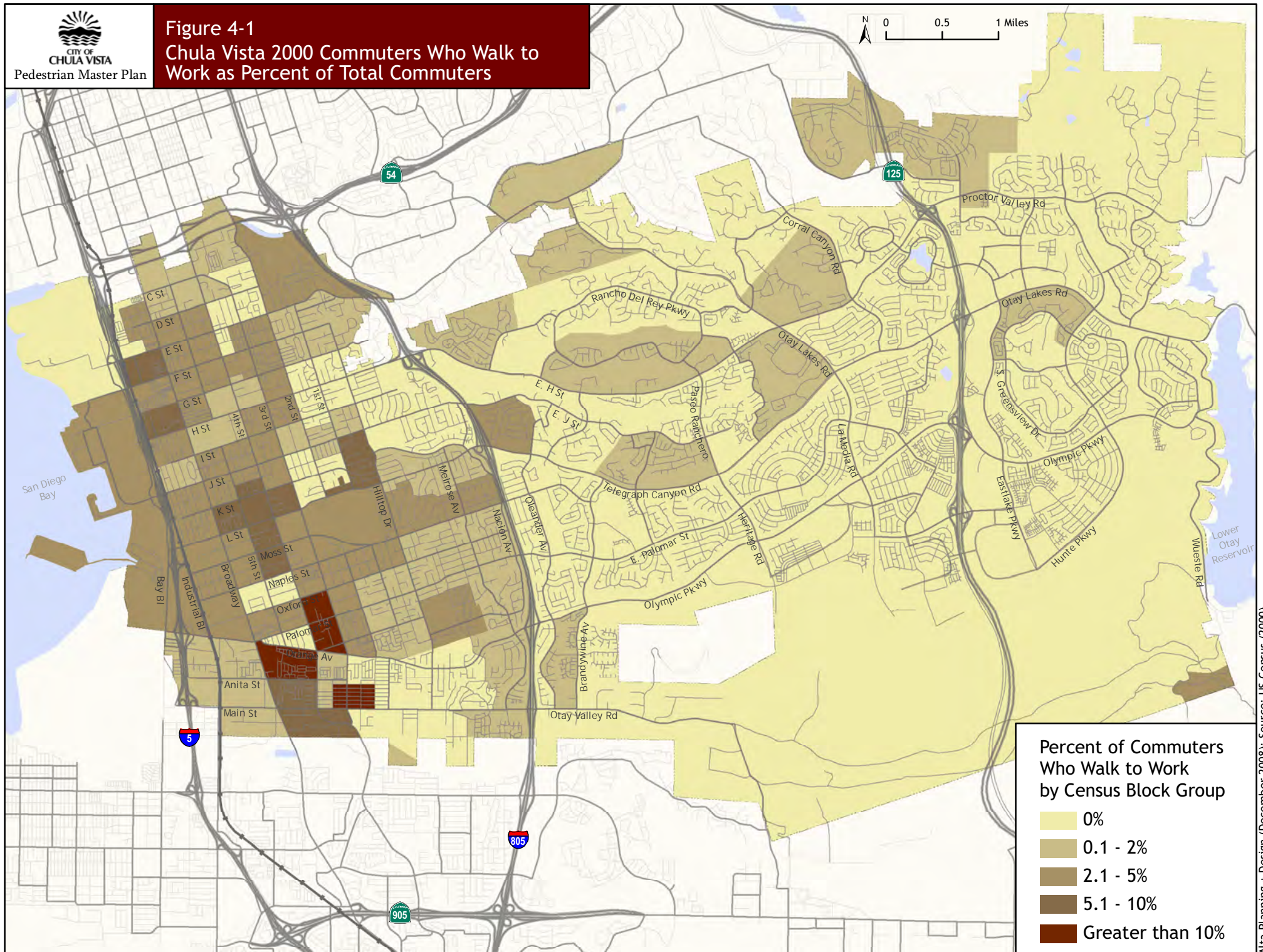
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<sup>9</sup> US Census Bureau, 2006-2008 American Community Survey 3-Year Estimates.

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**Figure 4-1**  
**Chula Vista 2000 Commuters Who Walk to Work as Percent of Total Commuters**



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## Population and Employment Density

Population density, measured as the number of persons per acre, is a strong indicator of potential pedestrian activity. Generally, higher population densities are associated with more urbanized environments, which tend to support pedestrian travel through mixed land uses and interconnected street networks.

**Figure 4-2** displays population density for the City of Chula Vista. As shown, the western portions of Chula Vista tend to show relatively higher population densities, with many census blocks having more than 25 persons per acre. Low population densities occur in the city's southeastern and northeastern areas with a concentration of higher densities between H Street and Telegraph Canyon Road. There is a noticeable absence of population density in the southeast portions of the city, south of Telegraph Canyon Road, and northeast of Otay Lakes Road. Unfortunately, 2000 Census data does not reflect population that now resides in portions of southeastern Chula Vista that have only recently developed.

**Figure 4-3** displays employment density for the City of Chula Vista. There are several locations with high concentrations of employment, especially in the Northwest Planning Area.

## Population Characteristics

This section summarizes population characteristics associated with higher levels of walking, including youth, elderly, physically disabled, and median household income. Certain population characteristics, such as age and household income, have been shown to influence pedestrian activity. For example, youth tend to walk more given they cannot legally drive; elderly and physically disabled tend to walk or use sidewalk facilities more given physical impairments which may restrict their ability to drive; and finally, lower income households tend to walk more given their lack of access to vehicles for driving.

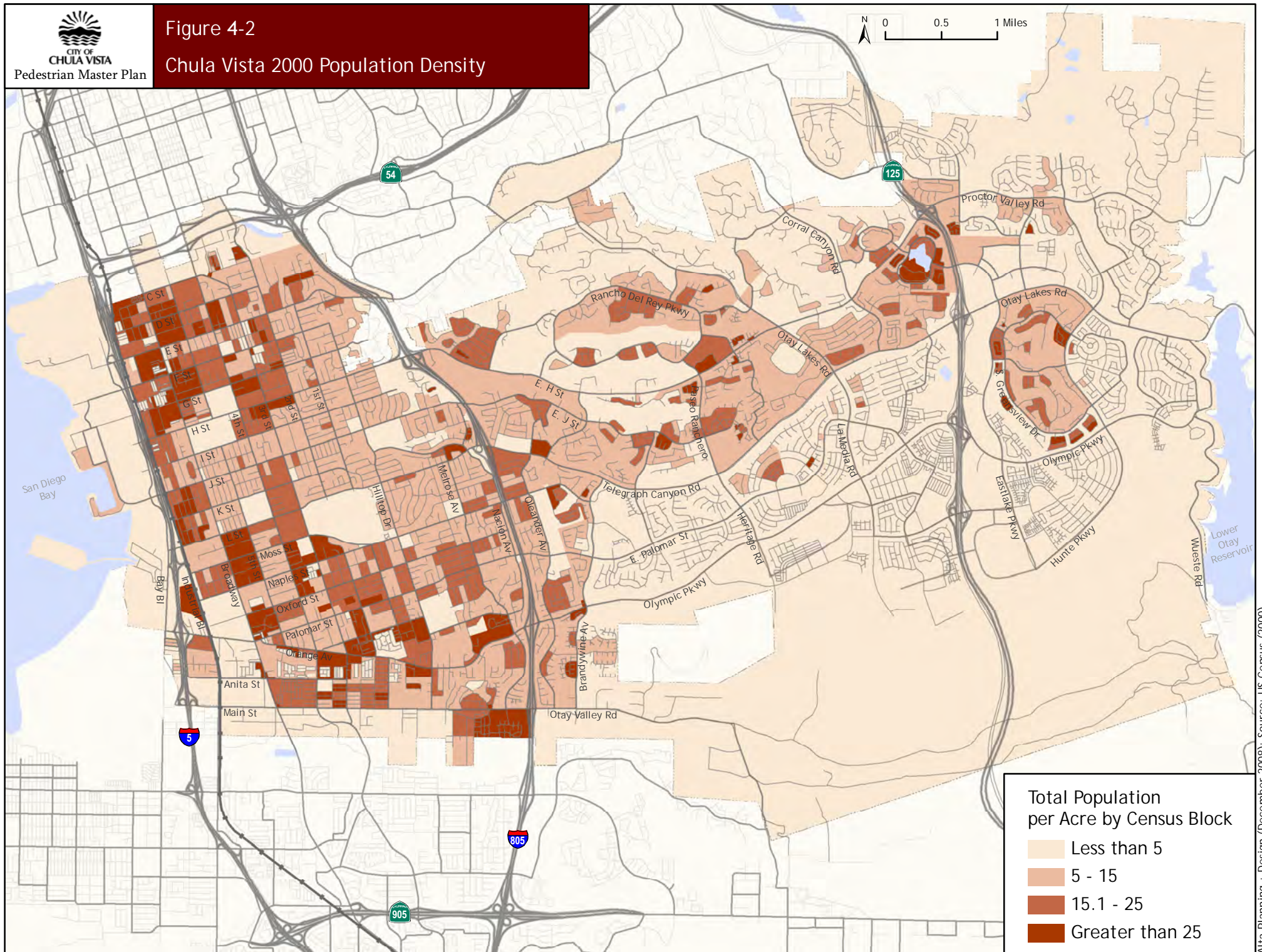


**Figure 4-4** displays the distribution of population younger than 16 years across Chula Vista. The distribution and intensity of youth generally follows the overall population density patterns, although there is a notable concentration of youth in the census blocks falling within the western portions of both the Northwest and Southwest Planning Areas.

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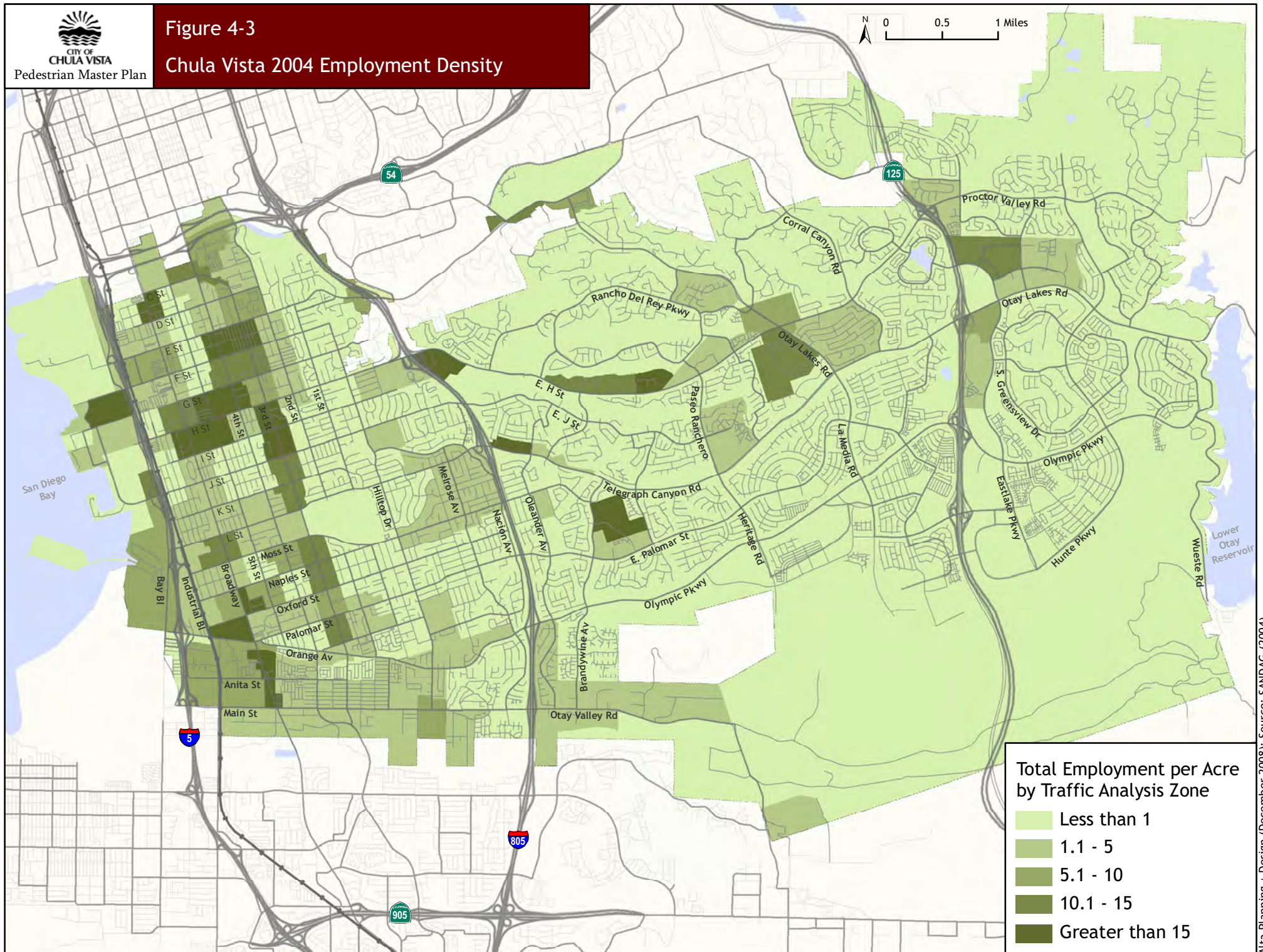
Figure 4-2  
Chula Vista 2000 Population Density



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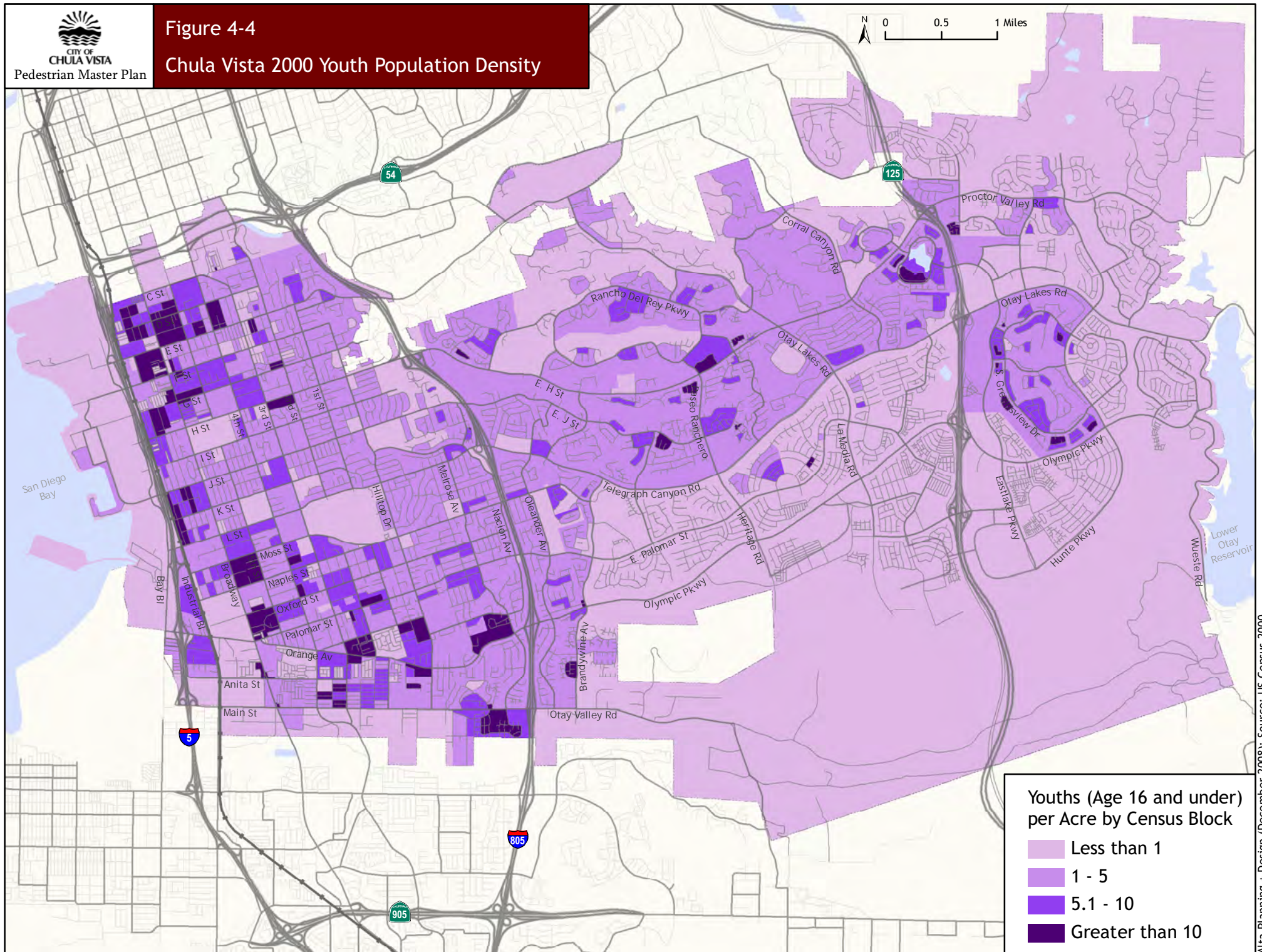
Figure 4-3  
Chula Vista 2004 Employment Density



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**Figure 4-4**  
**Chula Vista 2000 Youth Population Density**





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**Figure 4-5** displays the distribution of population older than 65 years across Chula Vista. Locations of higher concentrations of elderly population generally follow similar patterns to the overall population, with notable differences in elderly density between the eastern and western portions of Chula Vista.

**Figure 4-6** displays the distribution of physically disabled population across Chula Vista. As shown, disabled populations are clearly concentrated in western Chula Vista.

**Figure 4-7** displays the household income patterns across the City of Chula Vista. As shown, the western portions of both the Northwest and Southwest Planning Areas had a 2000 median household income of less than \$40,000, while eastern Chula Vista generally had a 2000 median household income between \$40,000 and \$75,000.



### ***Chula Vista Pedestrian Generator Composite Map***

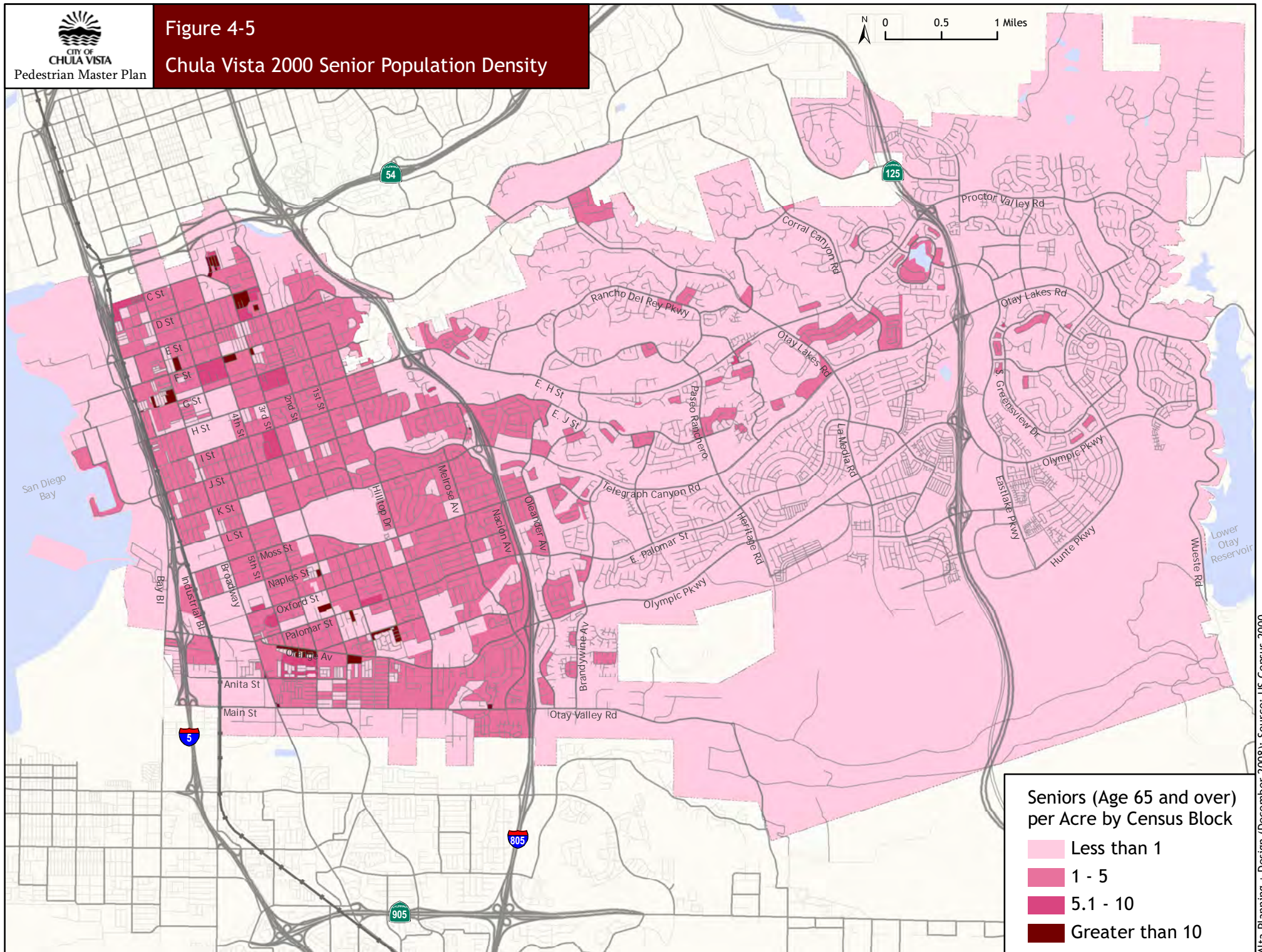
**Figure 4-8** displays a composite map of all pedestrian generators for the City of Chula Vista, including population and employment densities, and presence of population subgroups. This map was developed using a GIS tool called Spatial Analyst where all of the individual generators, as discussed in the previous sections, are combined into a single, composite raster file. The pedestrian generators are assigned points, with higher values assigned to locations with higher levels of pedestrian generating features. Differing weights are also applied to the various pedestrian generators to account for the relatively greater importance of some generators compared to others. **Table 4.1** displays the pedestrian generators, along with the associated points and weights.

Interpreting the points and weights values assigned to one of the generators is useful for understanding this process. In the case of population density, three classes of density were defined (>25 persons per acre, 5 - 25 persons per acre, and <5 persons per acre). Point values were then assigned to the different classes, with higher population densities receiving higher point values. A weight of 1 or 2 was applied to all of the generators. Those generators receiving a weight of 2 should have a greater effect on pedestrian activity than those generators receiving a weight of 1. The population density generator was assigned a weight of 2, meaning that it is more highly correlated with walking than some of the other pedestrian generators. The point and weight values were assigned in accordance with the relative impact of these characteristics on pedestrian activity understood through planning practice, academic research, and professional judgment. The point and weight values were similarly applied by the City of San Diego in their *2006 Draft Pedestrian Master Plan*.

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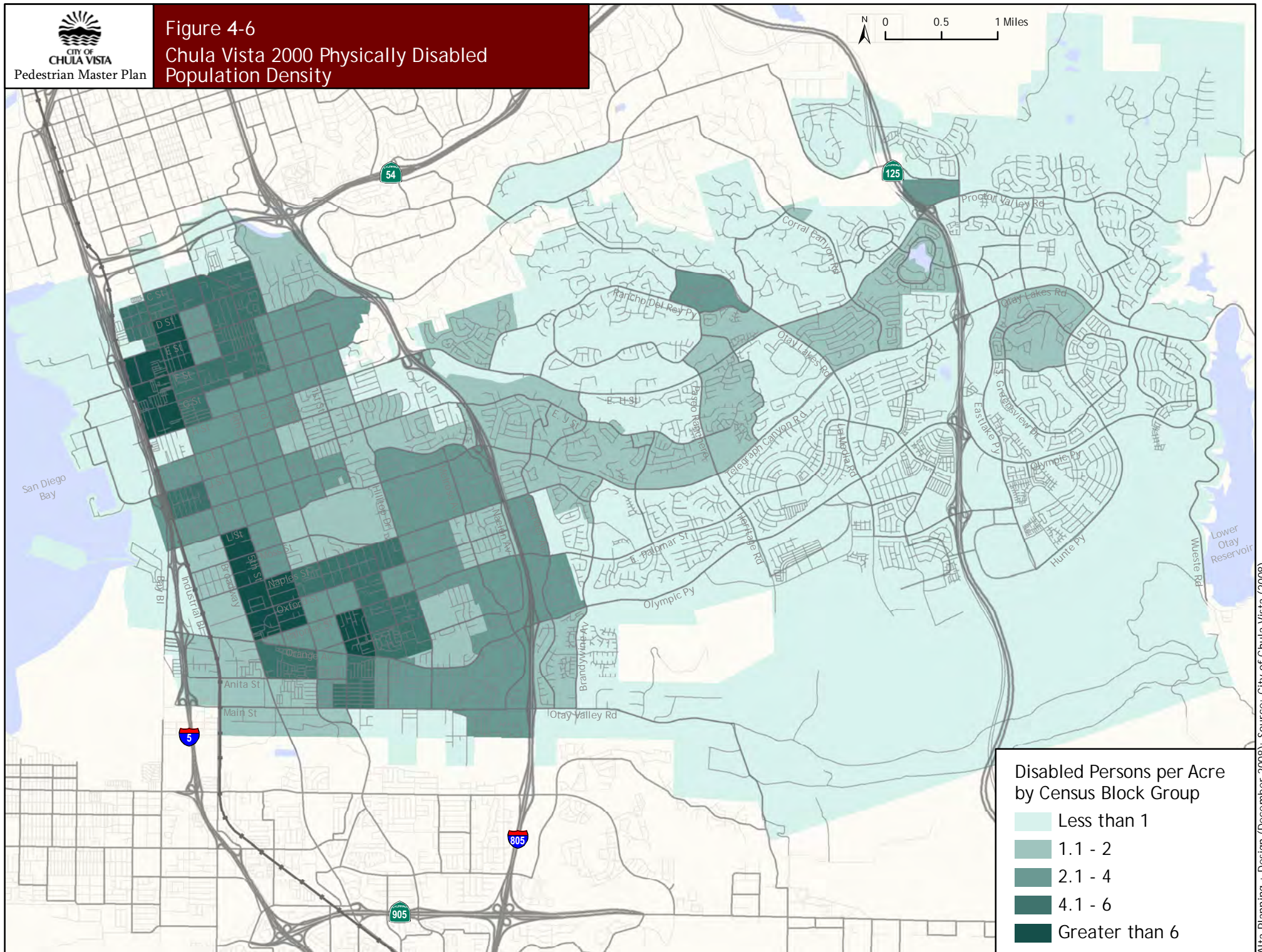
**Figure 4-5**  
**Chula Vista 2000 Senior Population Density**



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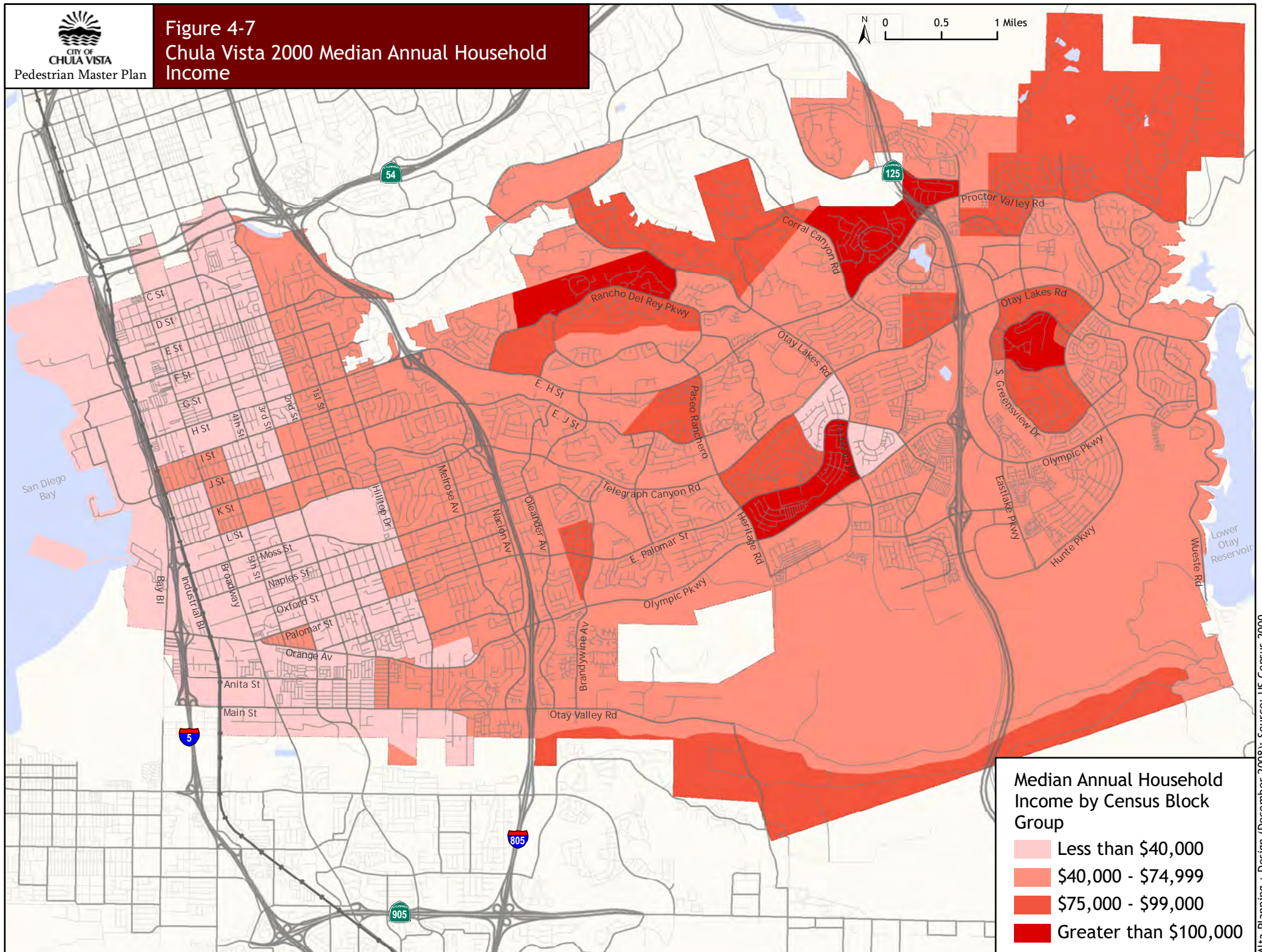
Figure 4-6  
Chula Vista 2000 Physically Disabled  
Population Density





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**Figure 4-7**  
**Chula Vista 2000 Median Annual Household Income**

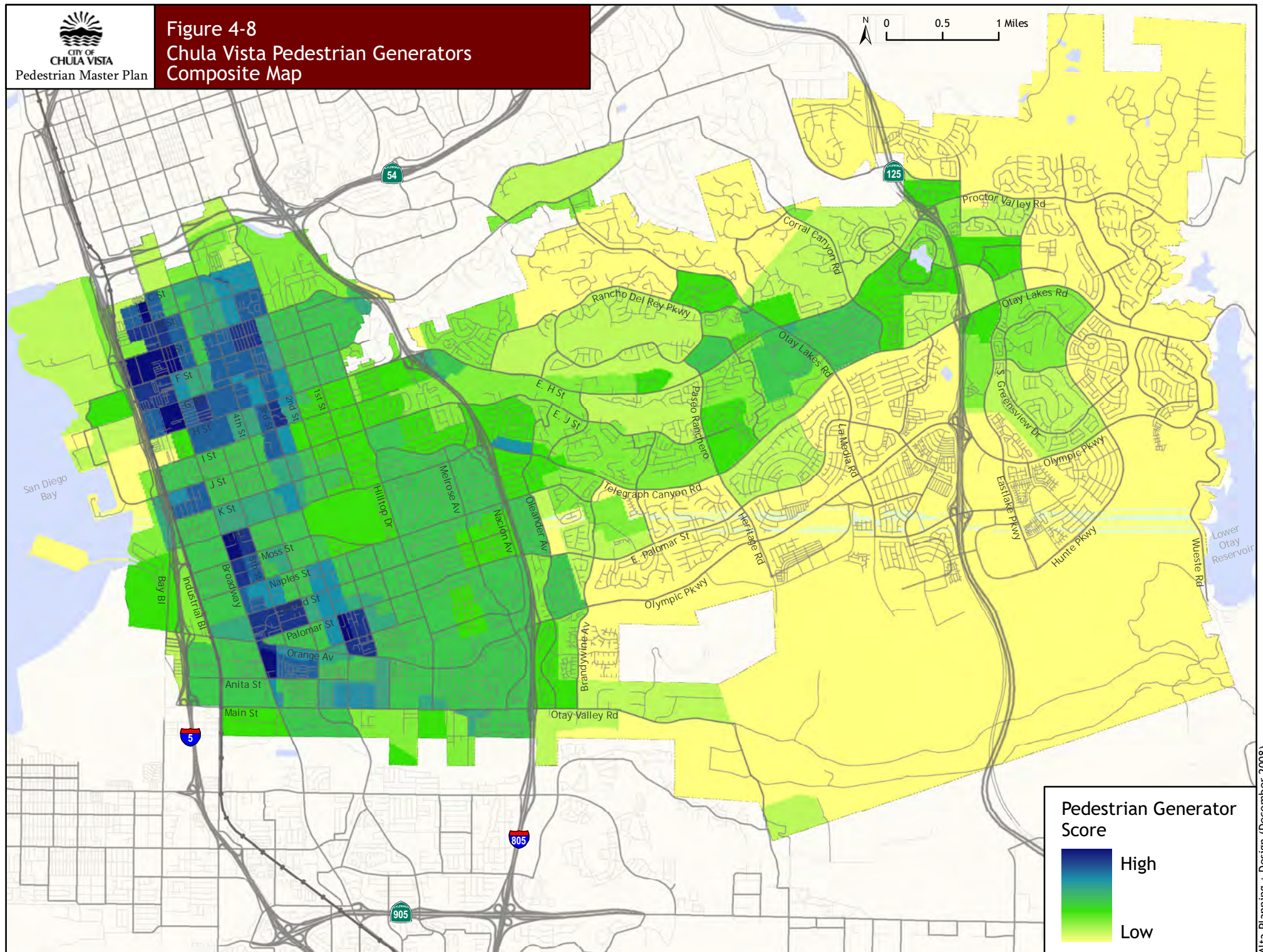


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**Figure 4-8**  
**Chula Vista Pedestrian Generators**  
**Composite Map**



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As shown in Figure 4-8, the pedestrian generator composite map identifies several high-generator areas within Chula Vista, especially in the western portions of the Northwest and Southwest Planning Areas.

**Table 4.1**  
**Pedestrian Generator Points and Weights**  
**Used to Create the Final Pedestrian Generator Map**

Pedestrian Generator	Points	Weights	Final Score
Pedestrian Commuters (percent pedestrian commuters by census block group)			
> 2	3	2	6
1 - 2	2		4
0.25 - 1	1		2
< 0.25	0		0
Population Density (persons per residential acre by census block)			
> 25	3	2	6
5 – 25	2		4
1 – 5	1		2
Employment Density (employees per nonresidential acre by traffic analysis zone)			
> 15	3	2	6
5 – 15	2		4
1 – 5	1		2
Elderly (population older than 65 years per residential acre by census block)			
> 10	3	1	3
5 – 10	2		2
1 – 5	1		1
<1	0		0
Youth (population younger than 16 years per acre by census block)			
> 10	3	2	6
5 – 10	2		3
1 – 5	1		2
<1	0		0
Disabled (disabled population per residential acre by census block group)			
> 5	3	1	3
2 – 5	2		2
1 – 2	1		1
<1	0		0
Income (median annual household income by census block group)			
Less than \$35,000	3	1	3
\$35,000-\$65,000	2		2
Greater than \$65,000	1		1

Sources: Alta Planning + Design; 2000 U.S. Census Bureau, 12/18/2009



## Pedestrian Attractors

This section summarizes the distribution of various land use types across the City of Chula Vista that are typically associated with high levels of walking, especially land use types that attract a pedestrian trip, such as schools, transit stops, parks, beaches, retail, and civic facilities (libraries, post offices, and government buildings).

### *Schools, Parks, and Other Pedestrian Generating Land Uses*

**Figure 4-9** displays schools, parks, retail and other pedestrian attracting land uses. As shown, these land uses are fairly evenly distributed across the City of Chula Vista with strong linear patterns of retail land uses found along Broadway and Third Avenue in western Chula Vista.

### *Transit Stops and Ridership*

Public transit systems are an important focus for pedestrian travel since a large percentage of transit riders typically do not own cars, and must access the transit system by foot. The Metropolitan Transit System operates bus routes and a light rail system within Chula Vista, and the City also operates its own transit service called Chula Vista Transit.



**Figure 4-10** displays 2005 transit stops within the City of Chula Vista. There are a total of 346 transit stops in the City of Chula Vista, with ridership ranging from 0 to 12,311 daily boardings and alightings. Of the 346 transit stops, a total of 101 stops average more than 50 daily boardings and alightings.

Chula Vista is served by the Blue Line of the San Diego Trolley which provides light rail service between the San Ysidro border crossing and downtown San Diego with additional lines connecting to Santee via Lemon Grove (Orange Line) and Mission Valley (Green Line). The three trolley stations in Chula Vista:

H Street, Palomar Street, and Bayfront/E Street handle the most passengers of any transit stop in the city (12,311; 10,073; and 6,399 boarding and alightings, respectively)<sup>10</sup>.

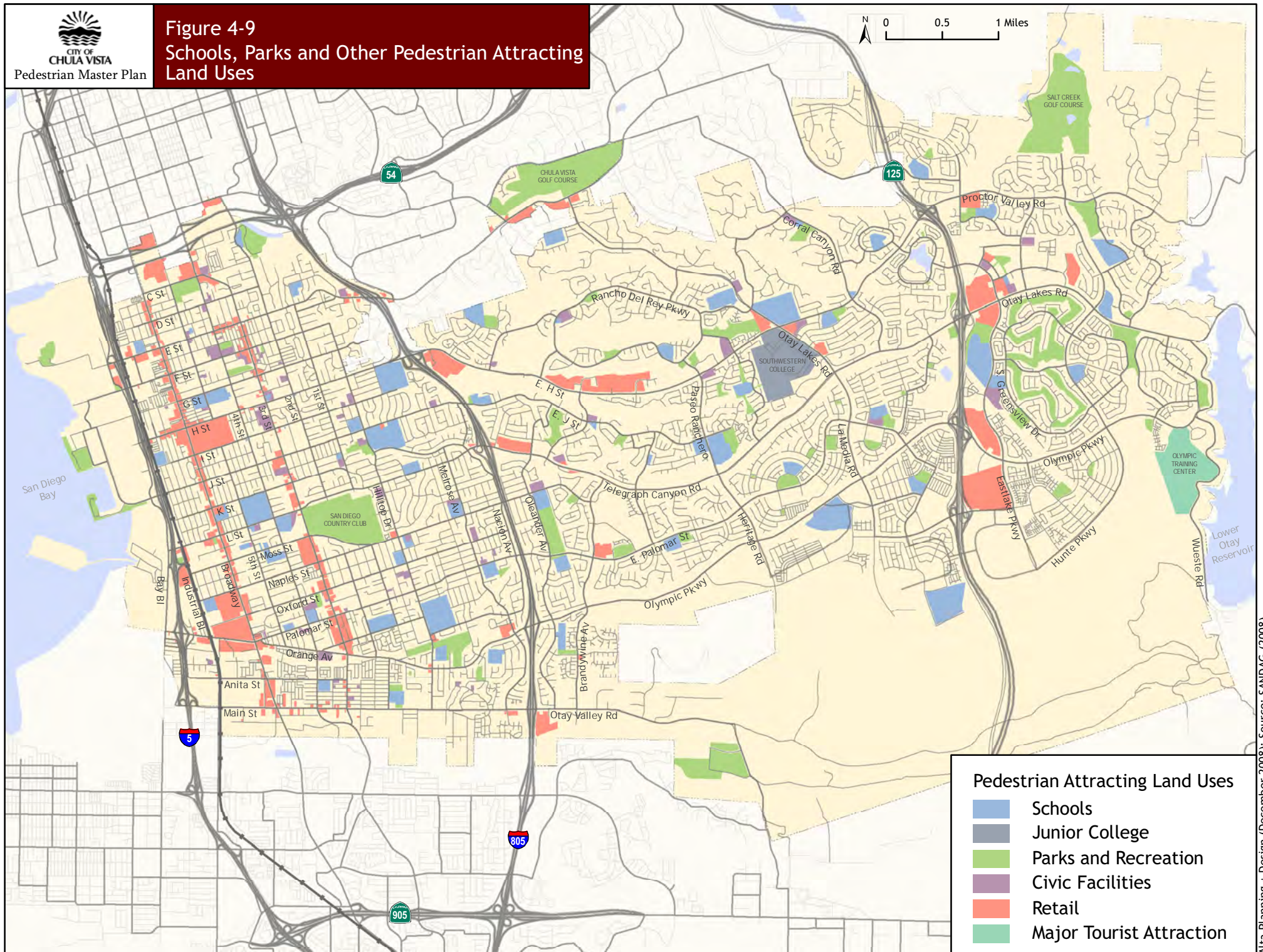
### *Chula Vista Pedestrian Attractor Composite Map*

**Figure 4-11** displays a composite map of all pedestrian attractors, as described in the previous sections, for the City of Chula Vista. As with the generators composite map, this map was developed using a GIS tool called Spatial Analyst where all of the individual attractors are combined into a single, composite file, with higher values assigned to locations closer to the pedestrian attracting land use and lower values assigned to locations further away from the pedestrian attracting land uses. Whereas the assessment of pedestrian generators was based mainly upon concentration of various population characteristics, pedestrian attractions are assessed in terms of distances to/from the pedestrian attracting land uses.

<sup>10</sup> SANDAG GIS Shapefile, 2005.



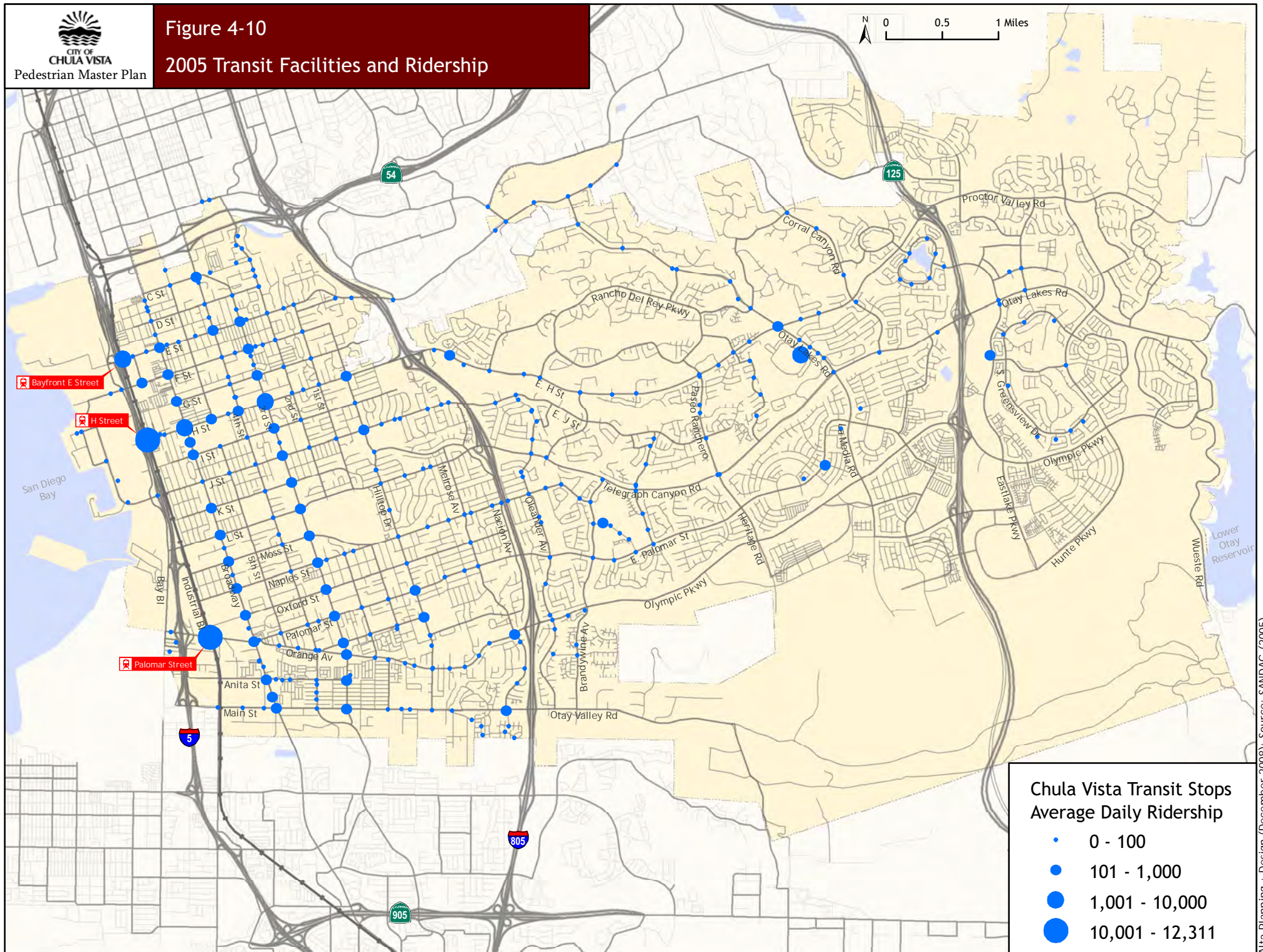
**Figure 4-9**  
**Schools, Parks and Other Pedestrian Attracting**  
**Land Uses**



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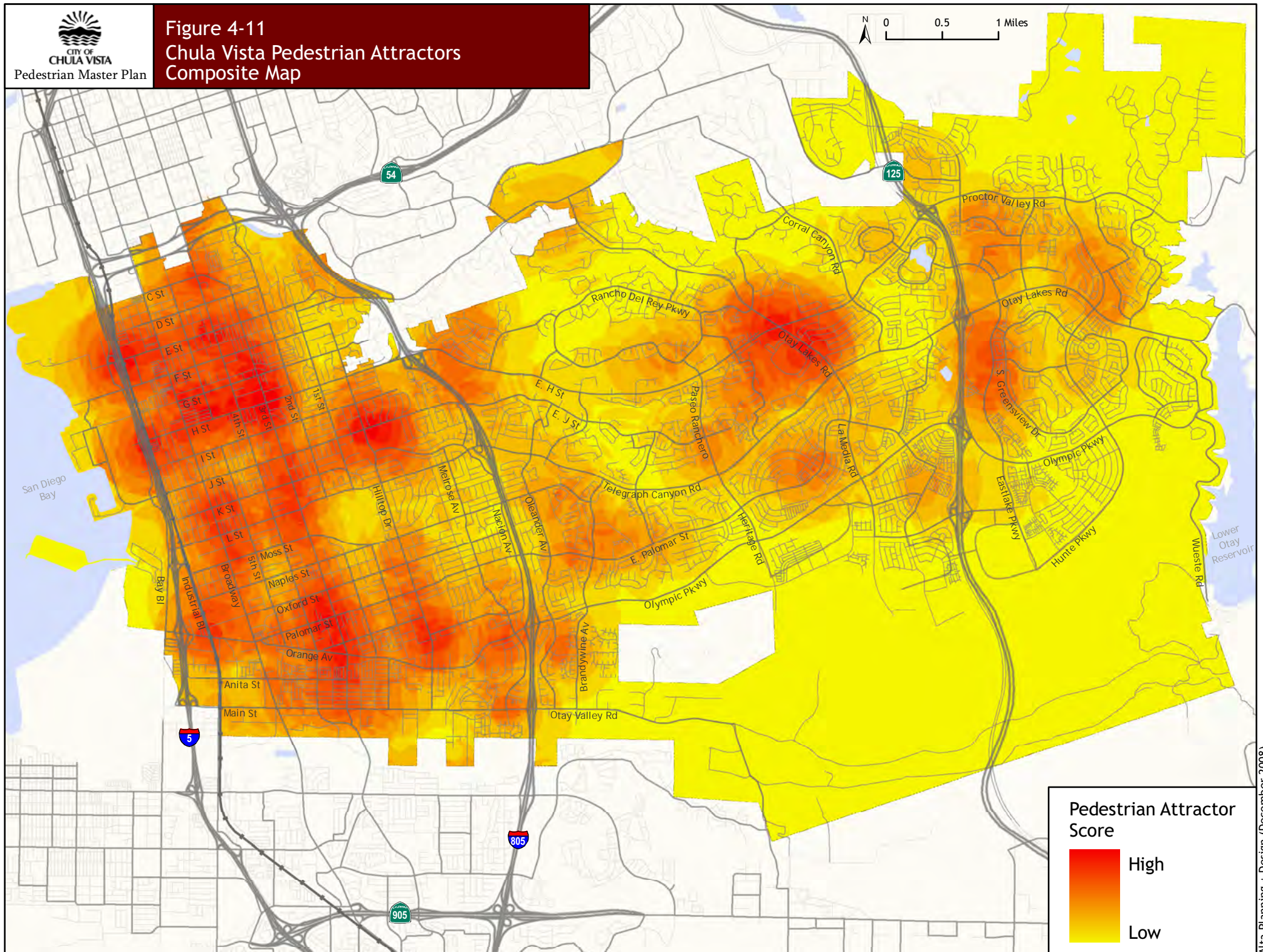
**Figure 4-10**  
**2005 Transit Facilities and Ridership**





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**Figure 4-11**  
**Chula Vista Pedestrian Attractors**  
**Composite Map**



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Varying weights were assigned to all locations within the City of Chula Vista based upon their proximity to pedestrian attracting land uses. Concentric rings or buffers were created emanating out from the pedestrian attracting land uses. The buffer distances assessed include: within one-eighth mile of an attraction, between one-eighth and one-quarter mile of an attraction, between one-quarter and one-third mile of an attraction, and between one-third and one-half mile of an attraction. Weight values are highest within one-eighth mile of an attracting pedestrian land use and lowest in locations between one-third and one-half mile of a pedestrian attracting land use. The point and weight values coincide with the relative impact of these land uses on pedestrian activity understood through planning practice, academic research, and professional judgment.

**Table 4.2** displays the distance-based weight values assigned to the respective buffers around the pedestrian attracting land uses.

**Table 4.2**  
**Distance-Based Pedestrian Attractor Weights**

Buffer Distance	Distance-Based Weights
Within 1/8 Mile	1.5
1/8 to 1/4 Mile	1
1/4 to 1/3 Mile	0.75
1/3 to 1/2 Miles	0.5
Beyond 1/2 Mile	0

Source: Alta Planning + Design, 12/18/2009

**Table 4.3** displays the points applied to the various pedestrian attracting land uses, along with the associated distance-based weights.

**Table 4.3**  
**Pedestrian Attractor Points & Final Scores**

Pedestrian Attracting Land Uses	Points	Final Score*			
		Within 1/8 mile	Between 1/8 and 1/4 mile	Between 1/4 and 1/3 mile	Between 1/3 and 1/2 mile
Major Transit Centers (>10,000 daily boardings and alightings)	5	7.5	5	3.75	2.5
Major Transit Stops (1,000-10,000 daily boardings and alightings)	4	6	4	3	2
Transit Stops (100-999 daily boardings and alightings)	3	4.5	3	2.25	1.5
Elementary Schools	3	4.5	3	2.25	1.5
Universities and Colleges	2	3	2	1.5	1
Middle Schools	2	3	2	1.5	1
Neighborhood Civic Facilities	2	3	2	1.5	1
Retail Facilities	2	3	2	1.5	1
Parks & Recreation	1	1.5	1	0.75	0.5
High Schools	1	1.5	1	0.75	0.5

Source: Alta Planning + Design, 12/18/2009

\*Note: The final score was calculated by multiplying the pedestrian attracting land use point value and the respective distance-based weight value according to the buffer size.

As shown in Figure 4-11, the pedestrian attractor composite map identifies several high-attraction areas within Chula Vista, especially in the western portion of the City. There are also several smaller concentrations of high pedestrian attraction areas near the intersection of Otay Lakes Road and East H Street and just east of SR-125, between Proctor Valley Road and Olympic Parkway.

## Barriers to Pedestrian Access

This section summarizes the distribution of various factors across the City of Chula Vista which tend to discourage people from walking. Pedestrian detractors include pedestrian/vehicle collisions, high traffic volumes, high posted speed limits, steep slopes, and un-traversable infrastructure, specifically freeway and rail corridors.

These detractors generally undermine broadly accepted pedestrian improvement goals of safety, connectivity, and walkability. For example, presence of infrastructure and natural barriers inhibit pedestrian network connectivity. High accident rates, high speeds and traffic volumes are generally indicators of low levels of pedestrian safety. The following sections describe the pedestrian detractors individually and then the methodology for creating a composite detractor map for the City of Chula Vista.

### *Freeways, Rail and Slopes*

**Figure 4-12** displays steep topographical slopes and infrastructure-related barriers, specifically freeway and railroad corridors. Areas with slopes over 25 percent were considered as impeding pedestrian travel. As shown, Chula Vista is traversed by several areas with slopes greater than 25 percent. Several transportation corridors, Interstate 5, Interstate 805, State Route 125 and the light rail corridor, also run the entire length of the City from north to south, and are significant barriers to east/west pedestrian travel.

### *Vehicular Travel Characteristics*

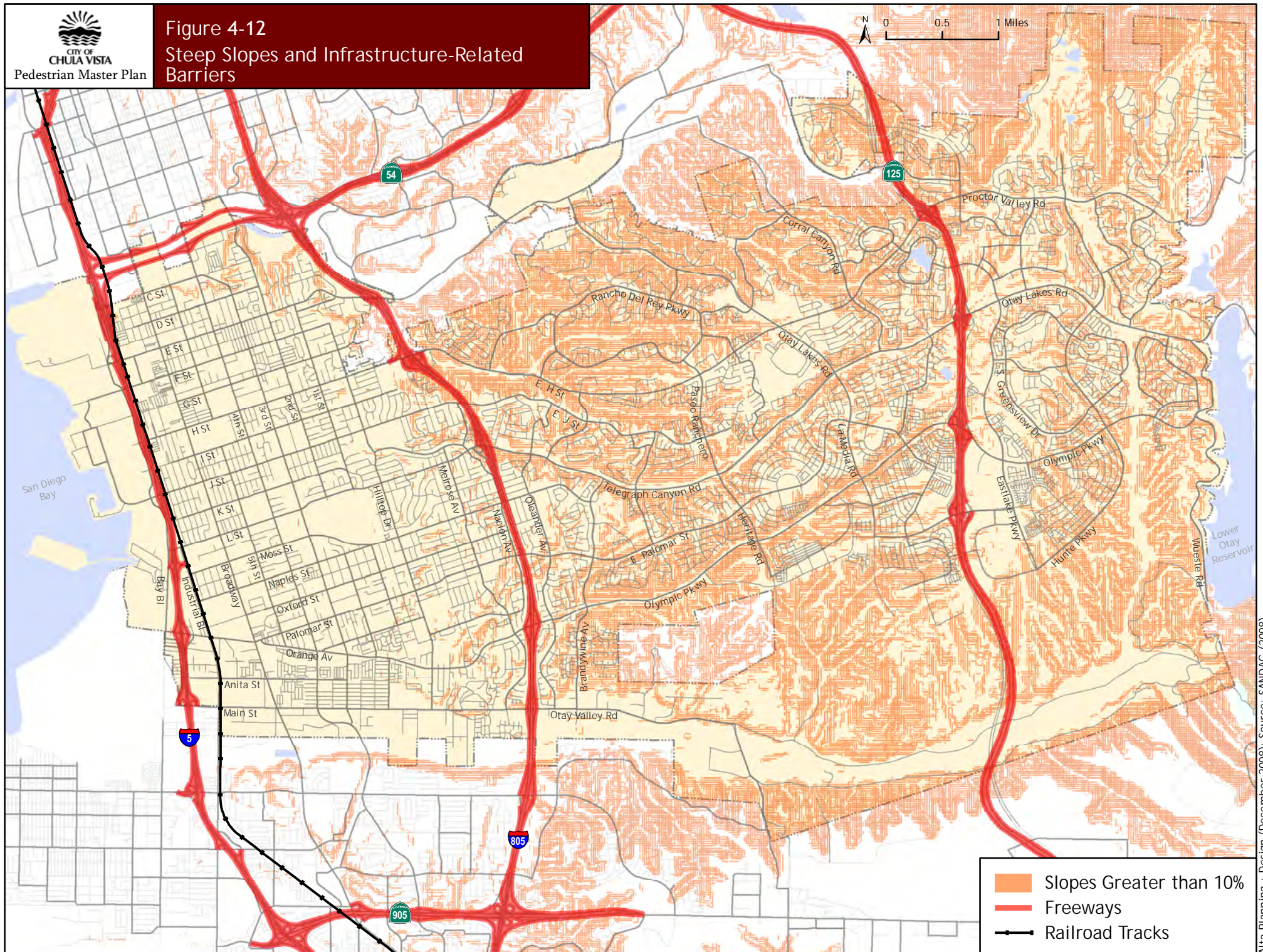
**Figure 4-13** displays 2008 traffic volumes. Roadways with high traffic volumes, over 45,000 Average Daily Trips (ADT), were considered high pedestrian detractors. **Figure 4-14** displays posted speed limits. Roadways with posted speed limits over 45 miles per hour were considered high pedestrian detractors.

### *Pedestrian Accidents*

This section summarizes recent pedestrian-related accidents within the City of Chula Vista. A total of 419 pedestrian-involved crashes in Chula Vista were reported to police between the years 2002 and 2007.



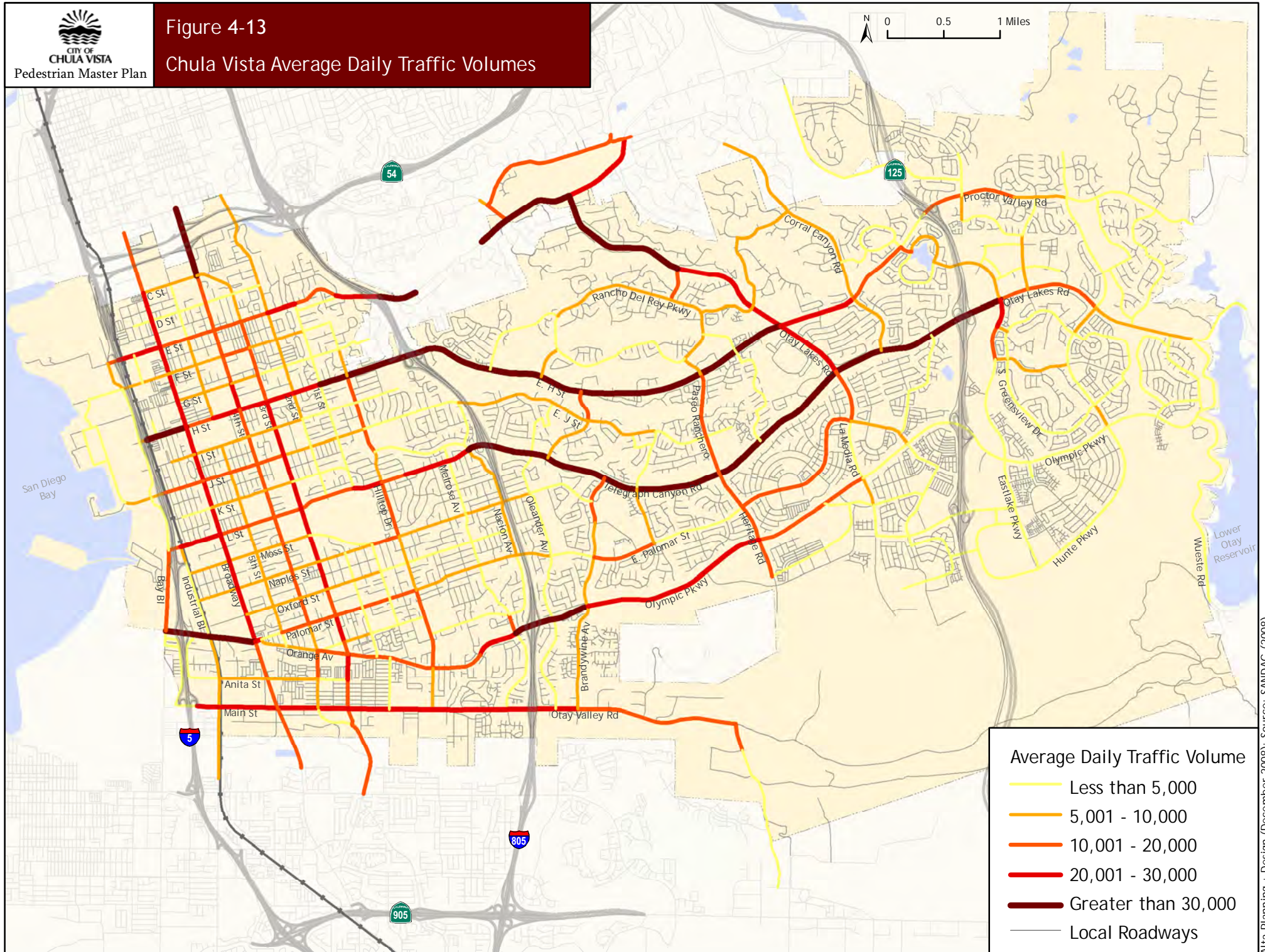
Figure 4-12  
Steep Slopes and Infrastructure-Related  
Barriers





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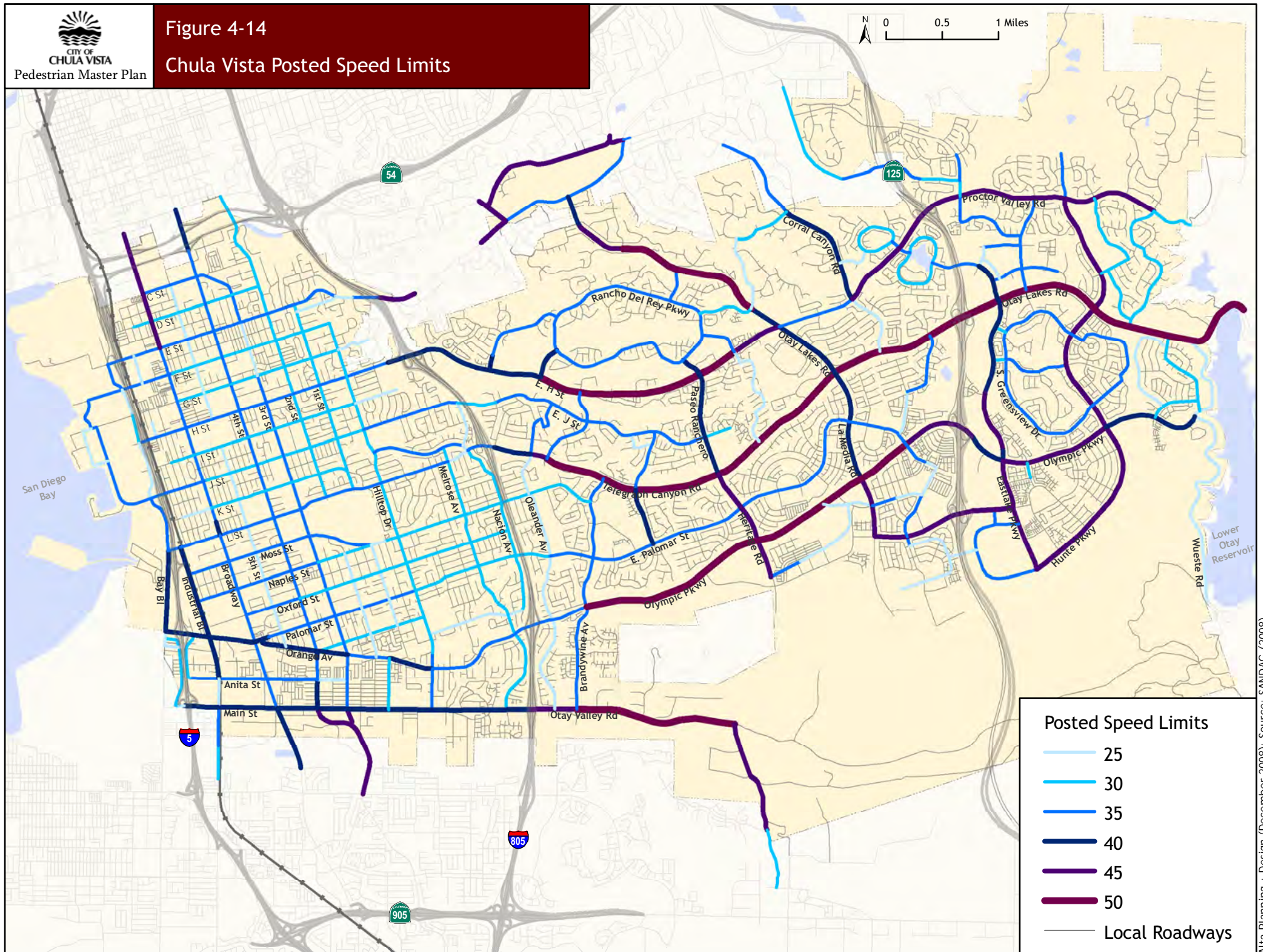
Figure 4-13  
Chula Vista Average Daily Traffic Volumes



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**Figure 4-14**  
**Chula Vista Posted Speed Limits**



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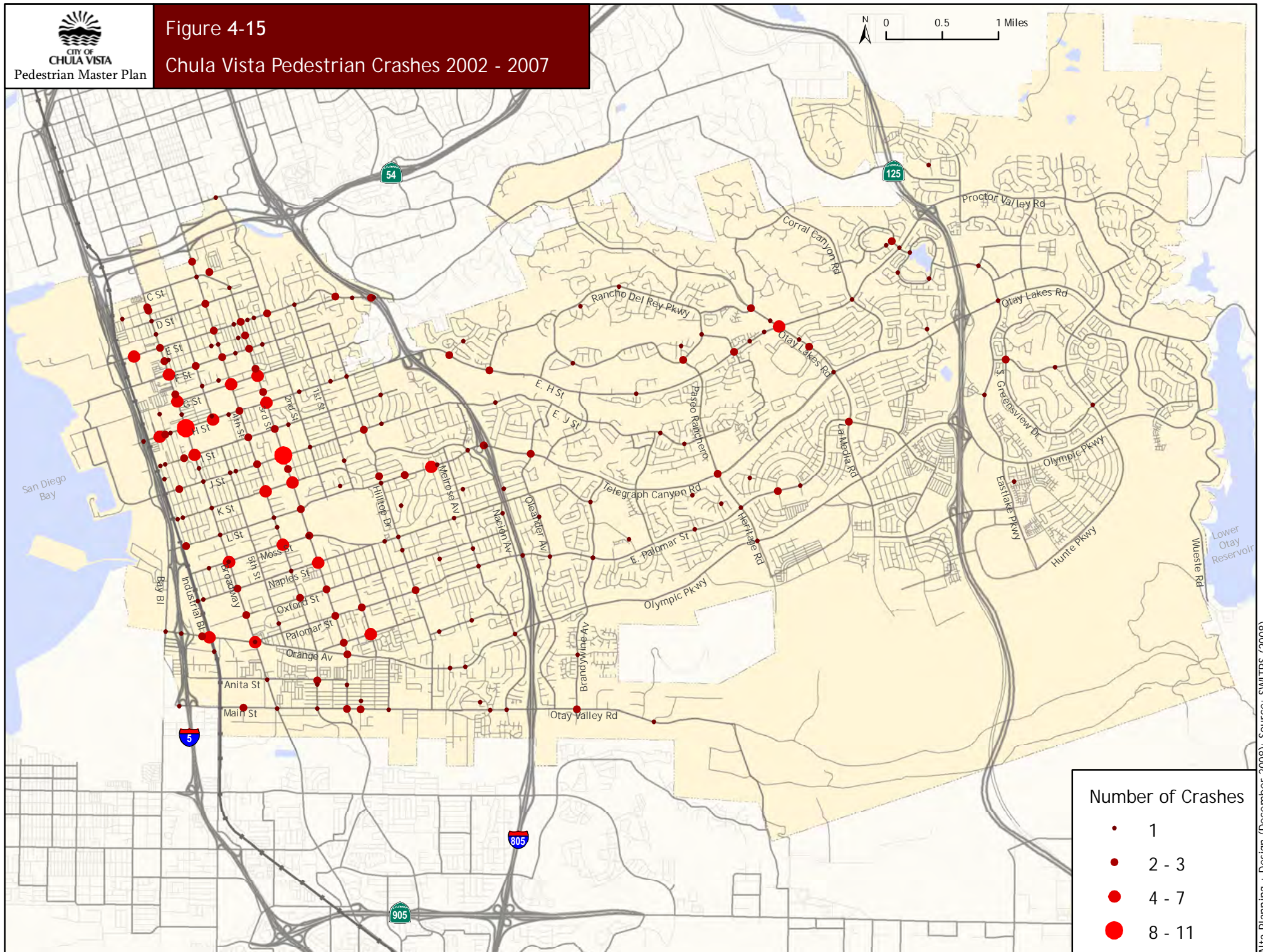
**Figure 4-15** displays the distribution of pedestrian accidents across the city. Key findings from this assessment include the following:

- The highest crash location in the city is at/near the intersection of Broadway and H Street. There were 11 crashes at this location during the six year period (2002 to 2007);
- Twelve locations across the city had 5 or more pedestrian-related crashes during this period (2002 to 2007);
- The 12 high crash locations occurred in areas with high concentrations of pedestrian attractors; 10 of 12 high crash locations occurred in areas with high concentrations of pedestrian generators;
- Eleven of 12 high crash locations occurred in the Southwest or Northwest Planning Areas, and;
- Five of 12 high crash locations are located along Broadway.

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Figure 4-15  
Chula Vista Pedestrian Crashes 2002 - 2007



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**Table 4.4** displays the 12 high pedestrian crash locations across the City of Chula Vista.

**Table 4.4**  
**Highest Pedestrian Crash Intersections in Chula Vista**

Intersection	Number of Pedestrian-Related Crashes
Broadway & H Street	11
Third Avenue & J Street	10
Woodlawn Avenue & E Street	7
Broadway & F Street	7
Third Avenue & K Street	7
Otay Lakes Road & East H Street	7
Broadway & G Street	6
Fourth Avenue & Moss Street	6
Broadway & Palomar Street:	6
Fourth Avenue & G Street:	5
Fifth Avenue & H Street	5
Broadway & I Street:	5

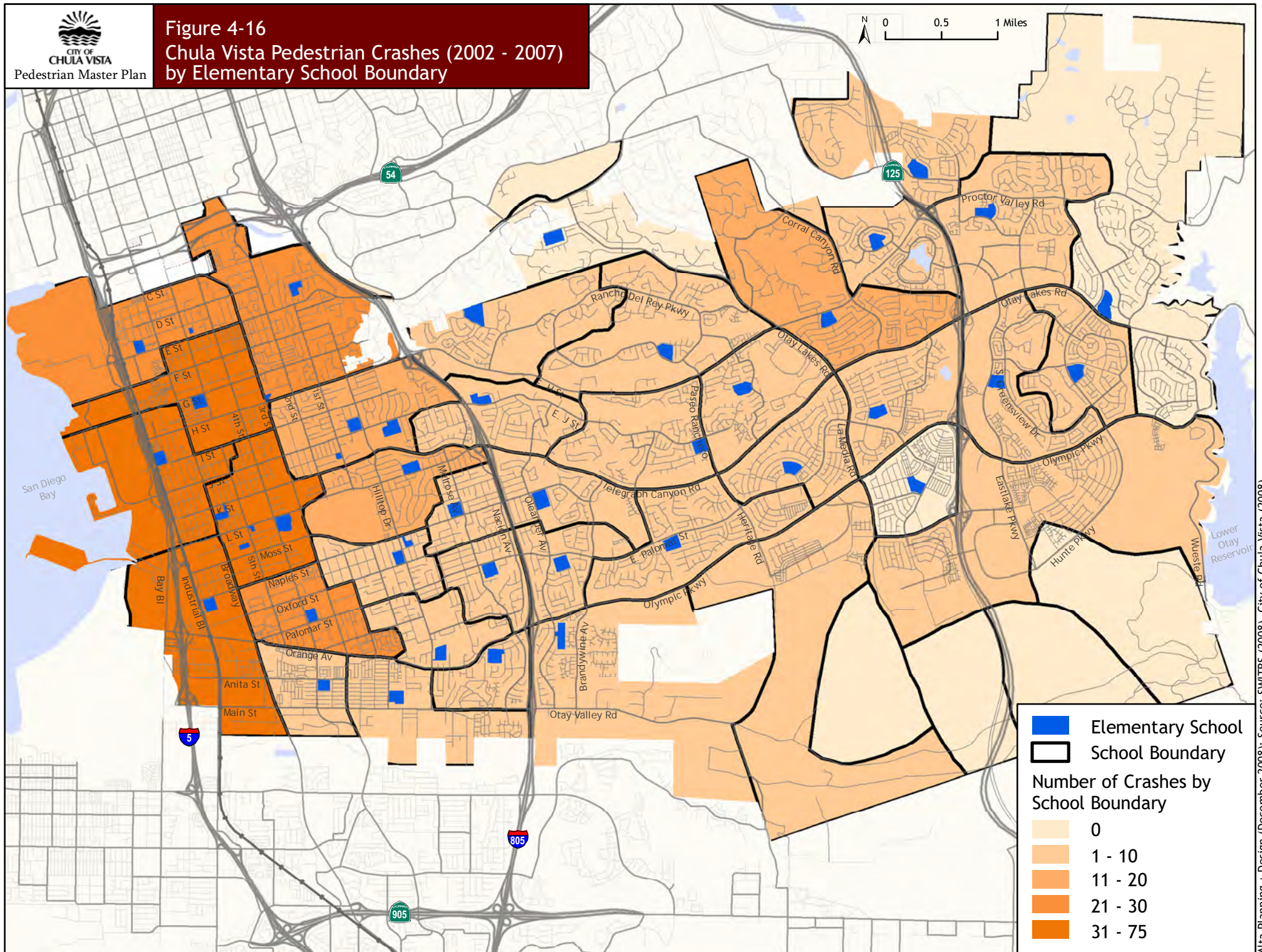
Sources: Alta Planning + Design; SWITRS (2008), 12/18/2009

About 65 percent of the pedestrian-related crashes occurred as a result of motorist vehicle code violation. Of those crashes attributed to a vehicle code violation, half were the result of a motorist's failure to yield when the pedestrian had the right of way. About 35 percent of the pedestrian-related crashes involved a pedestrian violation. In terms of location along the roadway right-of-way, about 50 percent of the crashes occurred while the pedestrian was in the crosswalk. In terms of time-of-day, the highest two-hour rate of pedestrian-related crashes occurred between 2pm and 4pm, with 17 percent of all pedestrian crashes taking place between those hours. About 40 percent of all pedestrian-related crashes occurred during the AM or PM peak hour periods (6:00 to 9:00 AM and 4:00 to 7:00 PM).

**Figure 4-16** displays the distribution of accidents within Chula Vista elementary school attendance boundaries. Similar to Figure 4-4, pedestrian/vehicular accidents are concentrated in the western portions of Chula Vista where street and intersection density far surpasses the more sprawling roadway network of the eastern side of the city. Many of the schools in western Chula Vista lack current safety features for pedestrians and experience higher levels of vehicle congestion and pedestrian activity than areas to the east. Vista Square, Mueller, and Lauderbach Elementary School attendance areas, have experienced relatively higher rates of pedestrian accidents over the past 5 years between 2001 and 2006.

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**Figure 4-16**  
**Chula Vista Pedestrian Crashes (2002 - 2007)**  
**by Elementary School Boundary**





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## Composite of Chula Vista Detractors

**Figure 4-17** displays a composite map of all pedestrian detractors for the City of Chula Vista. The pedestrian detractors are assigned points, with higher values assigned to locations with higher levels of pedestrian detracting features. Differing weights are also applied to the various pedestrian detractors to account for the relatively greater importance of some detractors over others. High point values are assigned to locations with high levels of pedestrian detractors because these locations have relatively greater need for pedestrian facility improvements.

**Table 4.5** displays the pedestrian detractors, along with the associated points and weights. The point and weight values were similarly applied by the City of San Diego in their *2006 Draft Pedestrian Master Plan*.

**Table 4.5**  
**Pedestrian Detractor Weights and Multipliers**  
**Used to Create the Chula Vista Composite Detractor Map**

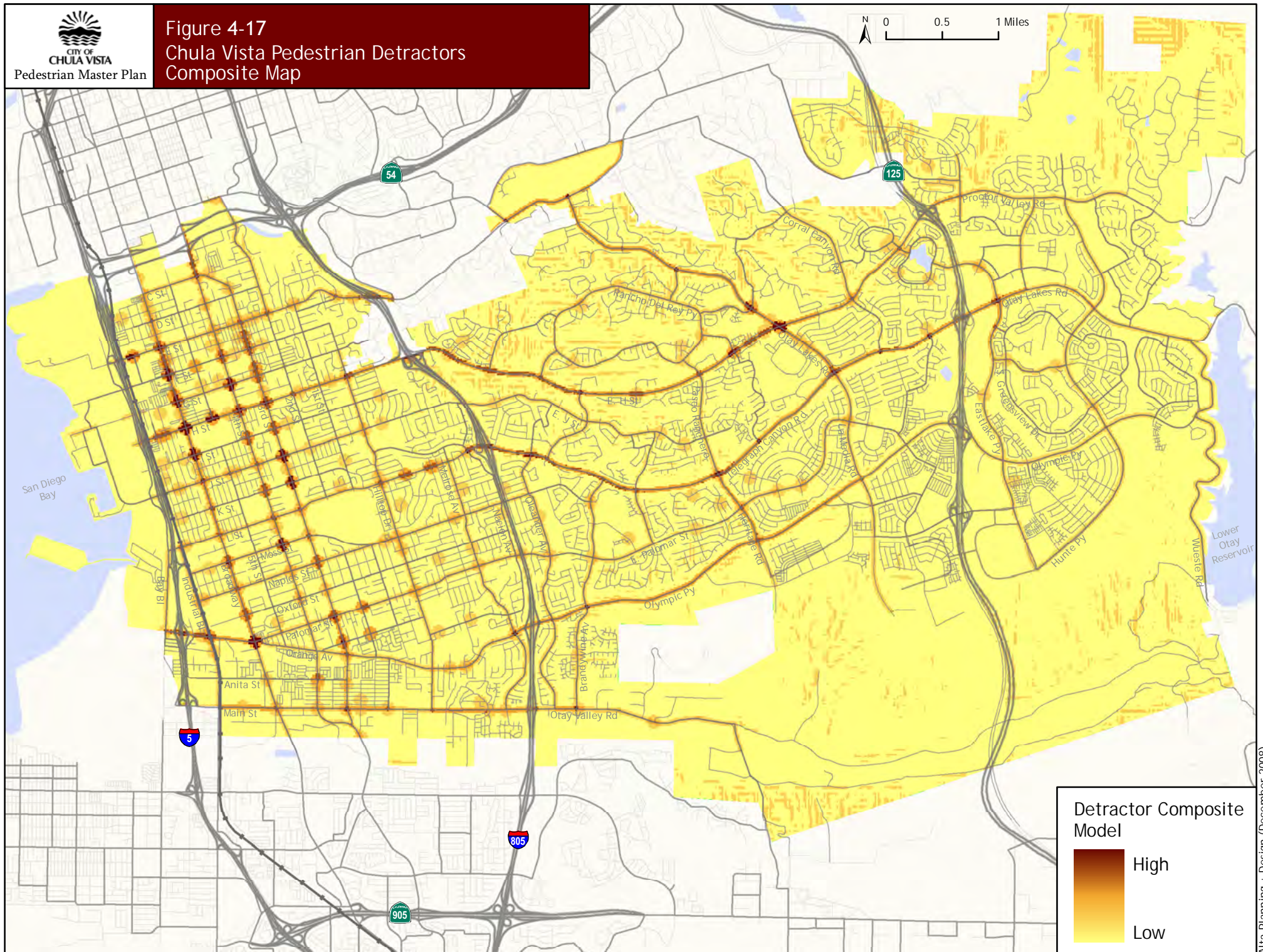
Pedestrian Detractor	Points	Weights	Final Score
Pedestrian Collisions 2001 to 2006 (1/16 miles buffer applied to each collision)			
> 1	3	3	9
0.5 – 0.9	2		6
0.001 – 0.5	1		3
0	0		0
Average Daily Trips (ADT)			
>45,000	3	2	6
35,000 – 45,000	2.5		5
25,000 – 34,999	2		4
15,000 – 24,999	1.5		3
10,000 – 14,999	1		2
5,000 – 9,999	0.5		1
< 5,000	0		0
Posted Speed Limits			
>45 mph	3	1	3
35 – 44	2		2
25 - 34	1		1
<25	0		0
Rail and Freeway Corridors			
	1	1	1
Slopes			
> 25%	2	1	2
10% - 25%	1		1
< 10%	0		0

Sources: Alta Planning + Design; SWITRS (2008), SANDAG Shapefiles, 12/18/2009

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Figure 4-17  
Chula Vista Pedestrian Detractors  
Composite Map



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As shown in Figure 4-17, the pedestrian detractor composite map identifies several high-detractor areas within Chula Vista. The freeway, rail, and major arterial corridors appear as significant pedestrian detractors in Chula Vista.

## Issues and Opportunities

Issues and opportunities refer to elements of the built and natural environment or the City's institutional framework that enhance or constrain the pedestrian experience. The issues and opportunities described in the following sections are based on analysis of existing facilities, policies and programs, public input, pedestrian generators and attractors, and barriers discussed in the previous chapters of this Plan.

### Issues

This section summarizes key issues that inhibit the pedestrian experience in Chula Vista or impede the City's ability to make improvements to the pedestrian environment.



#### **Missing and Substandard Infrastructure**

Several instances of missing curb ramps and missing or substandard sidewalks have been identified in Chula Vista, particularly in the older western portions of the city. Although the City's Capital Improvement Program (CIP) includes a program to construct missing sidewalk, there is currently a significant backlog of locations in need of repair due to reductions in the City's Public Works Operations staff. Older areas, again primarily in western Chula Vista, that were developed prior to more recent ADA standards were constructed without curb ramps and some have steep cross-gutters and therefore do not meet the current ADA standards. The cost of meeting regulatory standards is a constraint to compliance particularly due to the City of Chula Vista's recent fiscal strain.

#### **Corridor Barriers**

As discussed in Section 4.4 of this chapter, steep topographical slopes and infrastructure-related barriers are challenges that require special treatment to facilitate safe pedestrian travel. Chula Vista is traversed by several areas with slopes greater than 25 percent which far exceeds running slope standards established under the ADA. In addition, several regional transportation facilities, Interstate 5, Interstate 805, State Route 125 and the light rail corridor, also run the entire length of the City from north to south, and are significant barriers to east/west pedestrian travel.

### Traffic

Exposure to automobile traffic has been identified as a key issue for pedestrians, as demonstrated by the results of the pedestrian survey and the City's relatively high rates of pedestrian/automobile traffic conflicts. Traffic surrounding schools is also an issue as many schools are located along or near major roads. Traffic within school zones is exacerbated by congestion generated by people



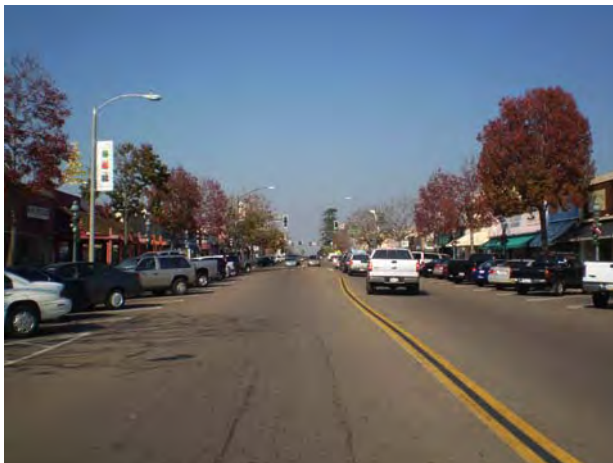
driving children to school which in creates an added barrier to those who do walk to school. The City and Chula Vista Elementary School District's (CVESD) complimentary SRTS programs should enhance the pedestrian experience and desirability of walking to school.

## ***Opportunities***

This section summarizes traits that inherently provide opportunities to improve the pedestrian environment or encourage people to walk more frequently.

### ***Street Network and Land Uses***

Western Chula Vista's streets generally conform to a well-connected grid system, unlike the eastern sections of the city where the hilly terrain results in more curvilinear streets that do not form a well-connected grid. The presence of the grid creates an excellent opportunity for pedestrians to walk to their destinations with minimal out-of-direction travel. In western Chula Vista, a well-connected grid system coupled with Chula Vista's numerous and evenly dispersed pedestrian attracting land uses, further facilitates walking as a mode of transportation. The results of the pedestrian survey, where a significant percent of respondents reported walking to get to school, to shop and conduct errands, indicates that focusing improvements in areas where grid street network and pedestrian attracting land uses are present is a promising strategy. The pedestrian-oriented streetscape of the "Village" is a particularly helpful element when encouraging walking as a viable alternative to driving.



Older western Chula Vista neighborhoods generally have smaller residential lot sizes and are relatively dense in population. Overall, this means there are more people situated more closely to a number of destinations and pedestrian attracting land uses within the city. This density, in conjunction with creating a more pedestrian-friendly environment, represents perhaps the greatest opportunity for increasing the number and frequency with which residents walk to access destinations.

### ***Transit***

Chula Vista, as previously noted, has significant transit resources affording opportunities for pedestrians seeking to extend their access to other locations throughout Chula Vista, adjacent communities and across the border. Chula Vista's high transit ridership rates, particularly ridership of the San Diego Trolley, suggest investment in improvements to pedestrian/transit access affords opportunities to enhance the pedestrian experience in Chula Vista.

### ***City Initiatives***

The City of Chula Vista has several programs and systems in place aimed at improving the pedestrian environment. The City's Infrastructure Management Program includes treatment of gaps and deficiencies in public facilities, including sidewalks and curb ramps. The City maintains an inventory of these deficient locations. The City's 1994 Transition Plan is complimented with an

ADA Curb-Cuts Program. The list of priority curbs was most recently updated in 2008. Although the City's pedestrian-related CIP programs have been impacted by fiscal stress, the City has had success acquiring infrastructure funding from external sources, such as a SRTS grant, a Community-Based Transportation Planning grant and TransNet/TDA funding. The Police Department has consistently been awarded small grants to enforce pedestrian-related traffic laws. There is an opportunity to build on the City's successes with institutionalizing pedestrian considerations.

### ***High Pedestrian Project Opportunity Areas***

Three composite maps were constructed and used as the basis for developing a "final composite map" intended to provide an objective method for identifying those areas across Chula Vista that warrant relatively higher consideration for pedestrian projects and improvements. The final composite map incorporates consideration of both those areas with high pedestrian travel demands in terms of pedestrian trip generators and attractors and high pedestrian travel detractors.

**Figure 4-18** displays the final pedestrian composite map. As with many of the input variables, the final composite map shows high need almost uniformly across the western portions of the Northwest and Southwest Planning Areas of Chula Vista.

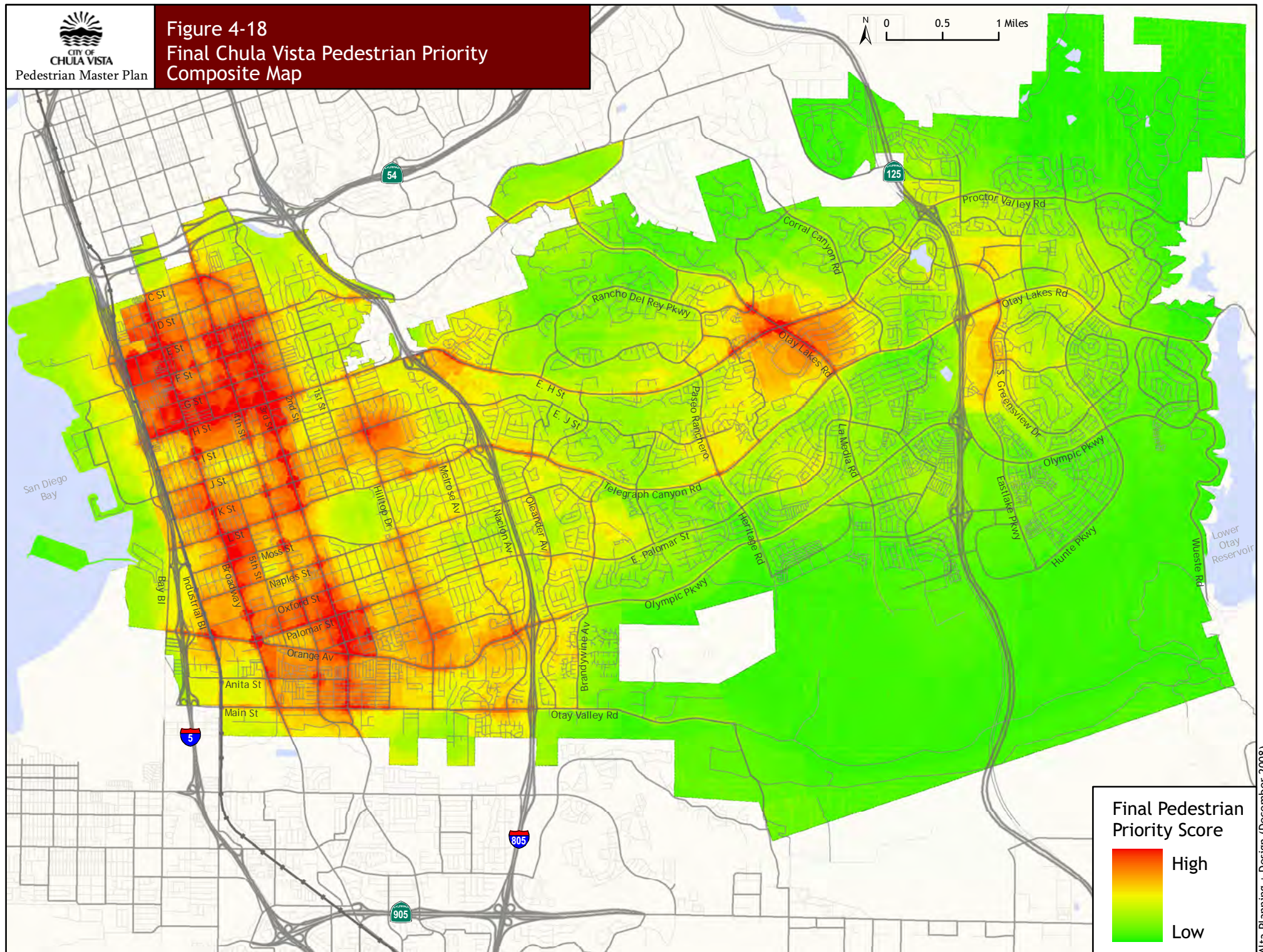
**Figure 4-19** defines more discrete pedestrian need areas that formed, along with the areas within a quarter-mile of all elementary schools, the basis for pedestrian improvement projects and program recommendations.

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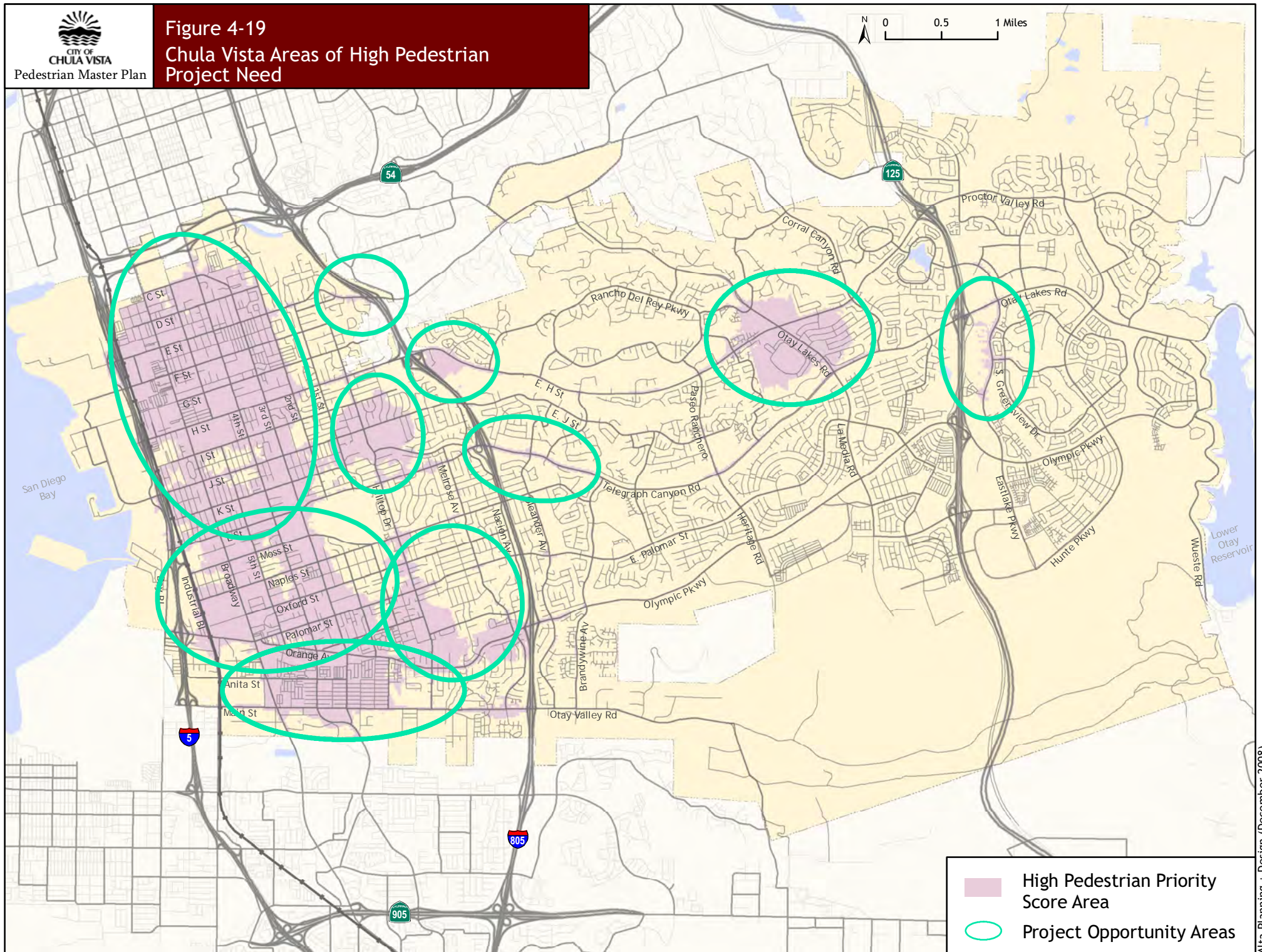
**Figure 4-18**  
**Final Chula Vista Pedestrian Priority**  
**Composite Map**



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**Figure 4-19**  
**Chula Vista Areas of High Pedestrian**  
**Project Need**





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